

REMARKS

This application has been carefully reviewed in light of the Office Action dated July 19, 2007. Claims 1, 3, 4, 6, 7, 9, 10, 12, 13, 15, 16, 18 and 25 to 27 are pending in the application, with Claims 2, 5, 8, 11, 14, 17 and 19 to 24 having been canceled and new Claims 25 to 27 having been added. Claims 1, 4, 7, 10, 13, 16 and 25 to 27 are the independent claims. Reconsideration and further examination are respectfully requested.

Claims 19 to 24 were rejected under 35 U.S.C. § 101. Without conceding the correctness of the rejections, the claims have been cancelled, thereby obviating the rejections. Reconsideration and withdrawal of the § 101 rejections are respectfully requested.

Claims 3, 6, 9, 12, 15, 18, 21 and 24 were rejected under 35 U.S.C. § 112, second paragraph. Without conceding the correctness of the rejections, the language in question has been deleted and amended to more accurately reflect the description included in the specification. Reconsideration and withdrawal of the rejections are respectfully requested.

Claims 1, 3, 4, 6, 7, 9, 10, 12, 13, 15, 16, 18, 19, 21 and 22 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 6,813,043 (Mizuyama), and Claims 2, 5, 8, 11, 14, 17, 20 and 23 were rejected under 35 U.S.C. § 103(a) over Mizuyama in view of U.S. Patent No. 5,668,638 (Knox). The rejections are respectfully traversed and the Examiner is requested to reconsider and withdraw the rejections in light of the following comments.

The present invention concerns error diffusion processing on colors of different densities. According to the invention, one of two different types of error

diffusion processes are executed for similar color components, where a first error diffusion process is executed to the density component whose highest density which can be expressed is low, and a second error diffusion process is executed to the density component whose highest density which can be expressed is high. The first process changes at least one of a quantization threshold value and a quantization coefficient which are used for the error diffusion process on the basis of information on one of the density components to be processed. The second process sets, into fixed values, the quantization threshold value and the quantization diffusion coefficient which are used for the error diffusion process. As an example of the process claimed herein, reference is made to Figs. 2 and 3 and the accompanying description found at page 16, line 27 to page 23, line 3.

The applied art, alone or in any permissible combination, is not seen to teach the features of the invention, and in particular, is not seen to teach at least the features of, first processing means/step for executing an error diffusion process by changing at least one of a quantization threshold value and a quantization diffusion coefficient which are used for the error diffusion process on the basis of information on one of the density components to be processed, second processing means for executing the error diffusion process by setting, into fixed values, the quantization threshold value and the quantization diffusion coefficient which are used for the error diffusion process, and controlling to execute, by the first processing means/step, the error diffusion process to density components of a similar color among the plurality of density components by executing the error diffusion process to the density component whose highest density which can be expressed is low, and executing, by the second processing means/step, the

error diffusion process to the density component whose highest density which can be expressed is high.

It is noted that the features added to, for example, Claim 1 with regard to the error diffusion processing control means corresponds to original Claim 2. The Office Action admits that Mizuyama fails to teach the features of Claim 2, but cites Knox for allegedly teaching those features.

Knox is merely seen to disclose quantizing image signals defined at “c” levels (gray levels) to image signals at “d” levels, where “d” may be less than or equal to “c”. Knox further discloses varying the threshold signals, used in the quantization, proportionally to the input image. However, Knox is not seen to teach controlling to execute, by the first processing means/step, the error diffusion process to density components of a similar color among the plurality of density components by executing the error diffusion process to the density component whose highest density which can be expressed is low, and executing, by the second processing means/step, the error diffusion process to the density component whose highest density which can be expressed is high.

In this regard, the Office Action alleges that Knox teaches a threshold modulation circuit which varies the threshold signals proportionally to the input image, and recursively varying the threshold signals in response to previous threshold signals, and therefore, in a mathematical expression, highest density value can be shown as low. Assuming that Knox could be found to teach the threshold modulation circuit as alleged, such a teaching is not the same as the error diffusion control means/step of the invention. In contrast to Knox which merely varies the threshold, the invention uses one of two different types of error diffusion processes depending on the density components to be processed.

The invention employs a first (varying threshold) process when the density component to be processed is one in which the highest density is low, and employs a second (fixed value) process when the density component to be processed is one in which the highest density is high. This process is shown in Fig. 3. Knox is not seen to teach the foregoing features of the claims. Thus, independent Claims 1, 4, 7, 10, 13 and 16, as well as the claims dependent therefrom, are believed to be allowable.

Claims 25 to 27 are similar to the other independent claims, with one difference being the recitation of small and large ink droplets instead of high and low densities. Otherwise, the claims are relatively identical and therefore, Claims 25 to 27 are believed to be allowable for substantially the same reasons as the other independent claims.

No other matters having been raised, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,
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